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EXAMINER	
WASHBURN, DOUGLAS N	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/695,602	Applicant(s) DIEWALD, HORST	
	Examiner Douglas N. Washburn	Art Unit 2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 July 2004*.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-6 and 8-11* is/are rejected.
7)☒ Claim(s) *7,12 and 13* is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *14 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☐ All b)☐ Some * c)☐ None of:
1.☐ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *22 December 2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1 The abstract of the disclosure is objected to because the abstract exceeds 150 words. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

2 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6, 8 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Gidden (US 4,516,213) (Hereafter referred to as Gidden).

Gidden teaches:

A first microcontroller (microprocessor; column 3, line 30; figure 1, element 1) comprising an input for the sensor data (phototransistor; column 3, lines 34 and 35; figure 1, element 3) a first memory (RAM; column 3, line 46; figure 1, element 9) and a first processor (microprocessor; column 3, line 30; figure 1, element 1) in regard to claim 1;

A second microcontroller (microprocessor; column 3, line 59; figure 2, element 12) comprising a second memory (RAM; column 3, line 61; figure 2, element 20) and a second processor (microprocessor; column 3, line 59; figure 2, element 12) in regard to claim 1;

A bus system (LED, figure 1, element 10; Phototransistor, figure 1, element 11; Address bus, figure 2, element 17; Data bus, figure 2, element 18; LED, figure 2, element 22; Phototransistor, figure 2, element 23) that connects the first microcontroller with the second microcontroller in regard to claim 1;

A first memory (RAM; column 3, line 46; figure 1, element 9) stores data and instructions that are configured so as to be adapted to the sensor and enable the conversion of the signals provided by the sensor into data representing the variables to be measured (column 3, lines 45-49) in regard to claim 1;

A first processor (microprocessor; column 3, line 30; figure 1, element 1) is connected such that it can execute the instructions stored in the first memory (RAM; column 3, line 46; figure 1, element 9) and thereby convert in real-time the measuring signals of the sensor into data that represent the measurable variable, and transfer these data (column 4, lines 13-17) by way of the bus system (LED, figure 1, element 10; Phototransistor, figure 1, element 11; Address bus, figure 2, element 17; Data bus, figure 2, element 18; LED, figure 2, element 22; Phototransistor, figure 2, element 23) to the second microcontroller (microprocessor; column 3, line 59; figure 2, element 12) in regard to claim 1;

A second memory (RAM; column 3, line 61; figure 2, element 20) stores sensor-independent data and instructions, which enable the processing of the data transferred by the bus system (LED, figure 1, element 10; Phototransistor, figure 1, element 11; Address bus, figure 2, element 17; Data bus, figure 2, element 18; LED, figure 2, element 22; Phototransistor, figure 2, element 23) representing the variable to be measured, and whereby the second processor (microprocessor; column 3, line 59; figure 2, element 12) is connected so as to be able to execute the sensor-independent instructions (column 4, lines 8-12) in the second memory (RAM; column 3, line 61; figure 2, element 19) in regard to claim 1;

Sensor-independent instructions stored in the second memory are configured so that the data processed by the second microcontroller (microprocessor; column 3, line 59; figure 2, element 12) can be output (column 4, lines 39-42) in regard to claim 2;

An interface (LED, figure 1, element 10; Phototransistor, figure 1, element 11; Address bus, figure 2, element 17; Data bus, figure 2, element 18; LED, figure 2, element 22; Phototransistor, figure 2, element 23) by means of which the data processed can be output in regard to claim 3;

An output unit (display, figure 2, element 27) that is connected to the interface in regard to claim 4;

A second microcontroller (microprocessor; column 3, line 59; figure 2, element 12) is furthermore connected to a timer unit (crystal oscillator, column 3, lines 9-12; figure 1, element 5) byway of the bus system (LED, figure 1, element 10; Phototransistor, figure 1, element 11; Address bus, figure 2, element 17; Data bus, figure 2, element 18; LED, figure 2, element 22; Phototransistor, figure 2, element 23) in regard to claim 6

A first microcontroller (microprocessor; column 3, line 30; figure 1, element 1) and a second microcontroller (microprocessor; column 3, line 59; figure 2, element 12) are connected to transmission links (Buttons, column 4, lines 13-17; figure 2, elements 24-26) , which control the access to the bus system (LED, figure 1, element 10; Phototransistor, figure 1, element 11; Address bus, figure 2, element 17; Data bus, figure 2, element 18; LED, figure 2, element 22; Phototransistor, figure 2, element 23) in regard to claim 8;

A first microcontroller (microprocessor; column 3, line 30; figure 1, element 1) comprising an input for the sensor data, a first memory (RAM; column 3, line 46; figure 1, element 9) and a first processor (microprocessor; column 3, line 30; figure 1, element 1)in regard to claim 11;

A second microcontroller (microprocessor; column 3, line 59; figure 2, element 12) comprising a second memory (RAM; column 3, line 61; figure 2, element 20) and a second processor (microprocessor; column 3, line 59; figure 2, element 12) in regard to claim 11;

A bus system (LED, figure 1, element 10; Phototransistor, figure 1, element 11; Address bus, figure 2, element 17; Data bus, figure 2, element 18; LED, figure 2, element 22; Phototransistor, figure 2, element 23) that connects the first microcontroller (microprocessor; column 3, line 30; figure 1, element 1) with the second microcontroller (microprocessor; column 3, line 59; figure 2, element 12) in regard to claim 11;

A first memory (RAM; column 3, line 46; figure 1, element 9) stores data and instructions that are configured so as to be adapted to the sensor and enable the conversion of the signals provided by the sensor into data representing the variables to be measured (column 3, lines 45-49) in regard to claim 11;

A first processor (microprocessor; column 3, line 30; figure 1, element 1) is connected such that it can execute the instructions stored in the first memory (RAM; column 3, line 46; figure 1, element 9), and thereby convert in real-time the measuring signals of the sensor into data that represent the measurable variable, and transfer these data (column 4, lines 13-17) by way of the bus system (LED, figure 1, element 10; Phototransistor, figure 1, element 11; Address bus, figure 2, element 17; Data bus, figure 2, element 18; LED, figure 2, element 22; Phototransistor, figure 2, element 23) to the second microcontroller (microprocessor; column 3, line 59; figure 2, element 12) in regard to claim 11;

And a second memory (RAM; column 3, line 61; figure 2, element 20) stores sensor-independent data and instructions, which enable the processing of the data transferred by the bus system (LED, figure 1, element 10; Phototransistor, figure 1, element 11; Address bus, figure 2, element 17; Data bus, figure 2, element 18; LED, figure 2, element 22; Phototransistor, figure 2, element 23) , representing the variable to be measured, and whereby the second processor (microprocessor; column 3, line 59; figure 2, element 12) is connected so as to be able to execute the sensor-independent instructions (column 4, lines 8-12) in the second memory (RAM; column 3, line 61; figure 2, element 20)in regard to claim 11.

Claim Rejections - 35 USC § 103

3 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gidden in view of Rahman et al. (US 6,026,355)(Hereafter referred to as Rahman).

Gidden teaches:

A first microcontroller (microprocessor; column 3, line 30; figure 1, element 1) comprising an input for the sensor data (phototransistor; column 3, lines 34 and 35; figure 1, element 3) a first memory (RAM; column 3, line 46; figure 1, element 9) and a first processor (microprocessor; column 3, line 30; figure 1, element 1) in regard to claim 1;

A second microcontroller (microprocessor; column 3, line 59; figure 2, element 12) comprising a second memory (RAM; column 3, line 61; figure 2, element 20) and a second processor (microprocessor; column 3, line 59; figure 2, element 12) in regard to claim 1;

A bus system (LED, figure 1, element 10; Phototransistor, figure 1, element 11; Address bus, figure 2, element 17; Data bus, figure 2, element 18; LED, figure 2, element 22; Phototransistor, figure 2, element 23) that connects the first microcontroller with the second microcontroller in regard to claim 1;

A first memory (RAM; column 3, line 46; figure 1, element 9) stores data and instructions that are configured so as to be adapted to the sensor and enable the conversion of the signals provided by the sensor into data representing the variables to be measured (column 3, lines 45-49) in regard to claim 1;

A first processor (microprocessor; column 3, line 30; figure 1, element 1) is connected such that it can execute the instructions stored in the first memory (RAM; column 3, line 46; figure 1, element 9) and thereby convert in real-time the measuring signals of the sensor into data that represent the measurable variable, and transfer these data (column 4, lines 13-17) by way of the bus system (LED, figure 1, element 10; Phototransistor, figure 1, element 11; Address bus, figure 2, element 17; Data bus, figure 2, element 18; LED, figure 2, element 22; Phototransistor, figure 2, element 23) to the second microcontroller (microprocessor; column 3, line 59; figure 2, element 12) in regard to claim 1;

And a second memory (RAM; column 3, line 61; figure 2, element 20) stores sensor-independent data and instructions, which enable the processing of the data transferred by the bus system (LED, figure 1, element 10; Phototransistor, figure 1, element 11; Address bus, figure 2, element 17; Data bus, figure 2, element 18; LED, figure 2, element 22; Phototransistor, figure 2, element 23) representing the variable to be measured, and whereby the second processor (microprocessor; column 3, line 59; figure 2, element 12) is connected so as to be able to execute the sensor-independent instructions (column 4, lines 8-12) in the second memory (RAM; column 3, line 61; figure 2, element 19) in regard to claim 1.

Gidden fails to teach an analog-digital converter connected between a sensor and a first microcontroller in regard to claim 5

Rahman teaches:

An analog-digital converter (analog-to-digital converter, column 7, lines 37-42) connected between a sensor (GMR 3, figure 8, element 80) and a first microcontroller (column 7, lines 37-42; figure 8, element 68) in regard to claim 5.

Regarding claim 5, it would have been obvious to one skilled in the art at the time of the instant invention to modify the teaching of Gidden of a first microcontroller comprising an input for sensor data with the teaching of Rahman of an analog-digital converter connected between a sensor and a first microcontroller because the analog-to-digital converter would have converted the analog equivalent of the current flow into digital form and provided it as an input to the microprocessor.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gidden in view of Catiller et al. (US 4,713,608)(Hereafter referred to as Catiller).

Gidden teaches:

A first microcontroller (microprocessor; column 3, line 30; figure 1, element 1) comprising an input for the sensor data (phototransistor; column 3, lines 34 and 35; figure 1, element 3) a first memory (RAM; column 3, line 46; figure 1, element 9) and a first processor (microprocessor; column 3, line 30; figure 1, element 1) in regard to claim 1;

A second microcontroller (microprocessor; column 3, line 59; figure 2, element 12) comprising a second memory (RAM; column 3, line 61; figure 2, element 20) and a second processor (microprocessor; column 3, line 59; figure 2, element 12) in regard to claim 1;

A bus system (LED, figure 1, element 10; Phototransistor, figure 1, element 11; Address bus, figure 2, element 17; Data bus, figure 2, element 18; LED, figure 2, element 22; Phototransistor, figure 2, element 23) that connects the first microcontroller with the second microcontroller in regard to claim 1;

A first memory (RAM; column 3, line 46; figure 1, element 9) stores data and instructions that are configured so as to be adapted to the sensor and enable the conversion of the signals provided by the sensor into data representing the variables to be measured (column 3, lines 45-49) in regard to claim 1;

A first processor (microprocessor; column 3, line 30; figure 1, element 1) is connected such that it can execute the instructions stored in the first memory (RAM; column 3, line 46; figure 1, element 9) and thereby convert in real-time the measuring signals of the sensor into data that represent the measurable variable, and transfer these data (column 4, lines 13-17) by way of the bus system (LED, figure 1, element 10; Phototransistor, figure 1, element 11; Address bus, figure 2, element 17; Data bus, figure 2, element 18; LED, figure 2, element 22; Phototransistor, figure 2, element 23) to the second microcontroller (microprocessor; column 3, line 59; figure 2, element 12) in regard to claim 1;

And a second memory (RAM; column 3, line 61; figure 2, element 20) stores sensor-independent data and instructions, which enable the processing of the data transferred by the bus system (LED, figure 1, element 10; Phototransistor, figure 1, element 11; Address bus, figure 2, element 17; Data bus, figure 2, element 18; LED, figure 2, element 22; Phototransistor, figure 2, element 23) representing the variable to be measured, and whereby the second processor (microprocessor; column 3, line 59; figure 2, element 12) is connected so as to be able to execute the sensor-independent instructions (column 4, lines 8-12) in the second memory (RAM; column 3, line 61; figure 2, element 19) in regard to claim 1.

Gidden fails to teach a sensor consists of a resistor array serving to measure voltage and/or current parameters in regard to claim 9.

Catiller teaches a sensor (devices, column 5, lines 54 and 55; figure 1, element 60) consists of a resistor array serving to measure voltage and/or current parameters in regard to claim 9.

Regarding claim 9, it would have been obvious to one skilled in the art at the time of the instant invention to modify the teaching of Gidden of a sensor with the teaching of Catiller of a sensor consists of a resistor array serving to measure voltage and/or current parameters because a devices (sensors) would have been provided to measure the average input voltage, each device would have been a conventional circuit whereby RMS voltages would have been rectified and filtered to provide a DC voltage corresponding to dc equivalents of the average ac voltage value.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gidden in view of Barker et al. (US 4,432,064)(Hereafter referred to as Barker).

Gidden teaches:
A first microcontroller (microprocessor; column 3, line 30; figure 1, element 1) comprising an input for the sensor data (phototransistor; column 3, lines 34 and 35; figure 1, element 3) a first memory (RAM; column 3, line 46; figure 1, element 9) and a first processor (microprocessor; column 3, line 30; figure 1, element 1) in regard to claim 1;

A second microcontroller (microprocessor; column 3, line 59; figure 2, element 12) comprising a second memory (RAM; column 3, line 61; figure 2, element 20) and a second processor (microprocessor; column 3, line 59; figure 2, element 12) in regard to claim 1;

A bus system (LED, figure 1, element 10; Phototransistor, figure 1, element 11; Address bus, figure 2, element 17; Data bus, figure 2, element 18; LED, figure 2, element 22; Phototransistor, figure 2, element 23) that connects the first microcontroller with the second microcontroller in regard to claim 1;

A first memory (RAM; column 3, line 46; figure 1, element 9) stores data and instructions that are configured so as to be adapted to the sensor and enable the conversion of the signals provided by the sensor into data representing the variables to be measured (column 3, lines 45-49) in regard to claim 1;

A first processor (microprocessor; column 3, line 30; figure 1, element 1) is connected such that it can execute the instructions stored in the first memory (RAM; column 3, line 46; figure 1, element 9) and thereby convert in real-time the measuring signals of the sensor into data that represent the measurable variable, and transfer these data (column 4, lines 13-17) by way of the bus system (LED, figure 1, element 10; Phototransistor, figure 1, element 11; Address bus, figure 2, element 17; Data bus, figure 2, element 18; LED, figure 2, element 22; Phototransistor, figure 2, element 23) to the second microcontroller (microprocessor; column 3, line 59; figure 2, element 12) in regard to claim 1;

And a second memory (RAM; column 3, line 61; figure 2, element 20) stores sensor-independent data and instructions, which enable the processing of the data transferred by the bus system (LED, figure 1, element 10; Phototransistor, figure 1, element 11; Address bus, figure 2, element 17; Data bus, figure 2, element 18; LED, figure 2, element 22; Phototransistor, figure 2, element 23) representing the variable to be measured, and whereby the second processor (microprocessor; column 3, line 59; figure 2, element 12) is connected so as to be able to execute the sensor-independent instructions (column 4, lines 8-12) in the second memory (RAM; column 3, line 61; figure 2, element 19) in regard to claim 1.

Gidden fails to teach a sensor is a flow meter to measure the consumption of gases or fluids in regard to claim 10.

Barker teaches a sensor (column 4, lines 63-67; figure 4, element 56) is a flow meter to measure the consumption of gases or fluids in regard to claim 10.

Regarding claim 10, it would have been obvious to one skilled in the art at the time of the instant invention to modify the teaching of Gidden of a first microcontroller comprising an input for the sensor data with the teaching of Barker of a sensor is a flow meter to measure the consumption of gases or fluids because the sensors comprised a portion of input means and would have included flow meters for detecting the flow of fluids. Each input sensor would have detected a physical condition, such as the transfer of blending material, and converted it into a corresponding electrical signal.

Allowable Subject Matter

4 Claims 7, 12 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

Claim 7 recites, in part, "both the first memory and the second each comprise a data memory and a program memory". This feature in combination with the remaining claimed structure avoids the prior art of record.

Claim 12 recites, in part, "second memory is configured so as to contain data and instructions that represent a current consumption tariff system, and where the further processing of the data representing the variable to be measured results in the computation of the electricity consumed". This feature in combination with the remaining claimed structure avoids the prior art of record.

Claim 13 recites, in part, "consumption tariffs are time-dependent and where the time information required for the computation of the electricity consumption costs are supplied by the timer". This feature in combination with the remaining claimed structure avoids the prior art of record

It is these limitations, which are not found, taught or suggested in the prior art of record, and are recited in the claimed combination that makes these claims allowable over the prior art.

Conclusion

5 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas N. Washburn whose telephone number is (571) 272-2284. The examiner can normally be reached on Monday through Thursday 6:30 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DNW

BRYAN BUI
PRIMARY EXAMINER
6/8/05